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BULLETIN

OF

THE NEW YORK ACADEMY OF MEDICINE

NOVEMBER, 1931

INCORPORATED 1851

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EDITORIAL

THE ROMANTIC EPISODE IN THE HISTORY OF GERMAN MEDICINE.

What is called romanticism, as a literary, artistic and humanistic phenomenon, came into being with the Napoleonic Wars, as a reaction against the artificial and case-hardened formalism of the 18th Century, which it was the function of the French Revolution to dissipate into space: The movement persisted well into the second third of the 19th Century, gradually giving place to the realism and objectivity engendered by the encroachment of the physical and biological sciences. The term is admittedly hard to define, indeed, some recent German scholars are fain to envisage it as indefinable, probably because romanticism was subjective, more a matter of feeling than of thought, a mode or mood of self-expression in which the mind was suffused with images, fantasies and sensations alien to the clear vision of reality. A good touchstone of romantic feeling is the fact that the spirit of the entire 18th Century was against it; for the 18th Century, with its obvious preference for surface and form to depth and substance, its penchant for well-defined concision within small compass, its clarity, elegance and sobriety, was an age of classicism, albeit of a highly artificial kind. Thus Goethe: *Klassisch ist das Gesunde; romantisch das Kranke* (The classics are sane; to be romantic is to be morbid). Now Goethe was the greatest literary figure of the transition period between the 18th and the 19th Centuries, holding with neither, yet

viewing either with a clear, equable, unbiassed perception of their merits and defects. With his Hellenic preference for clarity and serenity, the great poet sensed the Romantic cult as a way of seeing things as they are not, of envisaging reality through a refracted or highly colored medium,

> "Wo selbst das liebe Himmelslicht
> Trüb durch gemalte Scheiben bricht."

Nevertheless, his attitude was sympathetic and comprehending, by comparison with that of the elders of a later time, who viewed even the natural sentiments of younger people as *quelque peu romanesques,* a straw fire that could not last. For Goethe had been a romantic himself in *Werther, Götz* and the lyrics of his *Sturm und Drang* period, and wrote of Byron understandingly, even if he could not appreciate the intensely modern *oratio directa* of Beethoven. Thus it happens that Scott, Coleridge, Keats, Rossetti, Heine, Tieck, Novalis, Fouqué, Chateaubriand, Poe, Schumann, Weber, the Mendelssohn of the *Fingal's Cave* and *Melusine* Overtures, the Wagner of *Lohengrin, Tristan* and *Parsifal,* the Mignon episode in *Wilhelm Meister* are romantic, while Goldsmith, Addison, La Fontaine, Gainsborough, Bach, Mozart, Haydn, the Mendelssohn of the Violin Concerto, the Wagner of *Meistersinger* are classical. The realism of dry science came in, as Spengler justly observes, with Stendhal, and has latterly affected even such an emotional art as music. A few examples may be apposite at this time of day, before passing to the medical phase. If you are of post-bellum vintage, having no affiliations with the Romantic period, your shortest cut to romanticism as a mode of feeling will be by way of music. Sit down to your piano and play over such unpretentious little children's pieces of Schumann as *Mignon, Of Strange Lands and People* or the strophes in memory of Mendelssohn. If you can do this with the proper sentiment and a beautiful intonation, you will be in the full current of romanticism. Or note with what ease Mendelssohn creates atmosphere ("The horns of elfland faintly blowing") by the two or three opening

cords of his overture to Midsummer Night's Dream. Or try Brahms, who through his unrivalled mastery of the structural phase of music, expressed romantic sentiment with classical perfection of form.[1] Opus 57, No. 3 deals with a favorite idea of such romantics as Calderon, Byron, Novalis or Poe, that of a dream within a dream. Like the opening movement of the *Waldhorn* trio, it gives shadowy form and substance to the elusive and the intangible. Indeed, James Huneker characterizes the romantic phase of Brahmsian melody as "that bitter-sweet lingering, that spiritual reverie in which the musical idea is gently propelled as if in some elusive dream." Brahms' incomparable setting of Heine's *Der Tod das ist die kühle Nacht* (the fine flower of romantic sentiment) conveys the sensation of falling asleep and of dreaming, to music as non-climatic and as vague in tonality as so many bars of *Tristan*. The conviction that modes of feeling are of more consequence than modes of thought or *manière de voir* was as implicit in the Romantic cult as the idea of identification of one's personality with external nature—

"And what but gentleness untired,
And what but noble feeling warm,
Wherever shown, howe'er inspired,
Is grace, is charm?

Mild o'er her grave, ye waters shine,
Gently by his, ye waters glide,
To that in you which is divine
They were allied."

Nor was this confidence entirely misplaced, in the light of Claude Bernard's reasoning that feeling is anterior to thought: "When it is said that great thoughts come from the heart, it means that they come from the feelings, for our feelings, which have their physiological origin in the

[1]The kinship of the deathly chords which prelude the entrance of the Commander in *Don Giovanni* with those which accompany the final entrance of Isolde in *Tristan* is proof positive that genius is not shackled by conventions and that a composer of classical tradition, like Mozart, could express romantic emotions in an un-romantic period. So, too, the romantic feeling for the illimitable is conveyed in the etchings of Meryon, an artist endowed with classical precision of technique.

nerve-centres, act upon the heart like peripheral sensations." Feeling, however, may be variously ethical, sexual, compassionate, murderous, martial, bitter, jubilant, distressful, and so may tend to dim or discolor the *lumen siccum* of clear perception. Nevertheless, the devotion of the Romantic poets to the old Aristotelian view of the heart as the locus of cerebration was that of the writers of the Bible or the poets of Harvey's time. The sentiment of Heine's *Harzreise*—

"Steiget auf, ihr alten Träume,
Oeffne dich, du Herzens Thor"

falls flat upon our hard-boiled post-bellum generation, which has learned to distrust a parade of externalized sentiment, as being, like a gunman's funeral, a sure index of insincerity and lack of interior sentiment. The tears of *Tartufferie* are crocodile tears, yet it is equally true that the initial reactions of older people like ourselves, suddenly dislocated and thrown into undecipherable situations, can only be puzzled and distrustful. The Romantics had unbounded faith in the life of the heart and the soul.[2] To envisage ethical sentiment as a vague groping toward correct lines of thought ("right thinking") was the sign of the Faustian soul,[3] confirmed and sanctioned by no less than Goethe himself—

"Ein guter Mensch in seinem dunkeln Drange
Ist sich des rechten Weges wohl bewusst"

In his studies of great leaders of science, Wilhelm Ostwald distinguishes between the Classicists, who seek and attain to formal perfection and completeness in their

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[2]Cf. the concluding stanza of Schiller's *Thekla. Eine Geisterstimme*, or Emerson, who, through Carlyle, was profoundly influenced by the cult: "We need fear nothing from the progress of the soul. The soul may be trusted to the end," etc.

[3]With fine philosophic insight, Spengler makes the mathematics the point of departure of his differentiation between the Apollonian (Antique), Magian (Mediæval, Arabian) and Faustian (Modern) soul, as exemplified by Euclidian geometry, finite and limited to three dimensions; the magical (labor-saving) aspect of algebra and trigonometry (the special achievement of the Arabs); and the trend toward the illimitable and the infinite in modern mathematics (surds, imaginary quantities, infinitesimals, infinity, integration, differentiation, n-dimensional geometry, etc.).

work, as far as they have carried it, and the Romanticists, who are bold explorers of novel and untried fields, leaving behind them many loose ends of investigation for others to follow up and carry to completion. But this distinction will not help us much with reference to the phase of modern medicine we are about to consider. The Romantic episode in the history of German medicine is one of the most striking examples we have of a school of medical thought, isolated in space and time, pocketed as to locality, *sui generis,* limited to a grandiose program only, metaphysical in content, aimless or irrational in method, arising spontaneously and capable of going on indefinitely, had it not been interrupted by external forces of insignificant magnitude. It has been called "Romantic," as having the same *terminus a quo,* in point of time, as the Romantic movement in German literature and art, which outlived it and which was much more consequential in the matter of aspiration and achievement. The Romantic movement in English poetry has been elucidated with rare intelligence by Arthur Symons[4] and the effect of Byron upon Chateaubriand, Heine, Musset, Lamartine, Leopardi, Foscolo, Pushkin and Lermontoff, of Scott upon Dumas, Mérimée and Stendhal, of Poe upon Baudelaire, is well known to all students of modern European literature. The *ipogrifo violento* of Calderon's *Vida es Sueño* is the same old hippogriff that Wieland mounted—

> "Noch einmal sattelt mir den Hippogryphen,
> Zum Ritt in's alte romantische Land."

But the literary romanticism of England, France, Italy and Russia had no effect whatever upon English, French, Italian or Russian medicine. With Germany, the case was different. The most brilliant and fascinating account of German literary romanticism is that of Heinrich Heine,[5] who was himself an active participant in the movement of which he was, at the same time, an amused, sometimes

[4]Symons: *The Romantic Movement in English Poetry.*

[5]Heine: *Beiträge zur Geschichte der neueren schönen Literatur in Deutschland,* Hamburg, 1833. Later published as "Die romantische Schule."

sardonic spectator. With a polite preliminary bow to Mme. de Staël, Heine traces German Romanticism directly back to its true origins, the mediæval Eddas, epics and sagas, through Goethe (*Sturm und Drang*) up to the advent of the Schlegels, who began as self-appointed press-agents of the poet. German romanticism was compounded of dreamy, sometimes effusive sentimentality, religious mysticism, a tendency to hark back to the Middle Ages, a preference for intuitive knowledge, based upon feeling, to the trite rationalism of the 18th Century, a yearning for strange lands and people, for the infinite and the illimitable, an aversion to the real and rational, a penchant for the irrational, and in the case of Wieland and Friedrich Schlegel (*Lucinde*), of what Carlyle dubbed "a mixture of moonshine and sensuality." Exoticism, so manifest in Goethe's *West-östlicher Divan,* began with Herder's *Stimmen der Völker* and is sufficiently exemplified in Schlegel's *Sprache und Weisheit der Indier* (1808), in the admirable translations of Shakespeare by Schlegel and Tieck, of the Shah Nameh by Görres, and of Hindu and Spanish drama by the two Schlegels. Nietzsche, in fact, defined the Romantic cult, as the work of erudites (*eine Gelehrtenbewegung*).[6] Of the German Romantics, Görres and Clemens Brentano were Roman Catholics; the Schlegels, Tieck, Novalis, Stolberg and Werner were converts to Catholicism. The Schlegels were violently assailed by the Lutheran pastor-poet Voss and eventually repudiated, with some ingratitude, by Goethe himself. In Heine's view, that ended the movement. Its spirit, however, survives in the *Lieder* of Brahms or the harps and hunting-horns in the second act of *Tristan,* even as the spirit of

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[6]The same exoticism is manifest in Byron's Oriental romances, in Tom Moore (*Lalla Rookh*), in Southey (*Thalaba*), in Chateaubriand (*Atala*), Théophile Gautier, Baudelaire, Mérimée (*Clara Gazul*) and even in Flaubert (*Salammbo*). A more solid culmination was the philosophy of Schopenhauer, Sir Richard Burton's translation of the Arabian Nights or Max Müller's renditions of the Sanskrit classics. In other words, exoticism was a casual, accidental, rather than essential trait of romanticism. In like manner, the flaming red waistcoat of Théophile Gautier and the demonstration of *les jeunes France* at the initial performance of Hernani were boyish and sensational rather than "romantic."

Tintern Abbey, Christabel, St. Agnes' Eve, Morte d'Arthur and *The Blessed Damozel* survives in such lines as these of the Irish poet Yeats:

> "For there the mystical brotherhood
> Of sun and moon and hollow and wood
> And river and stream work out their will;
> And God stands winding His lonely horn,
> And time and the World are ever in flight."

The German medical romanticists themselves constituted a vague sort of mystic brotherhood, active during the first third of the 19th Century and productive of a considerable body of literature, now obsolete and so indefinite in tendency that it has been found impossible to characterize it in simple terms. In the elaborate and exhaustive study of Dr. Ernst Hirschfeld (Berlin),[7] of which some account follows, the movement is elucidated, not as a specific tendency or line of thought, but as the tumultuous yearning of a whole generation of physicians, drifting aimlessly, with very vague directives and objectives, but all animated by the same spirit of enthusiasm for a cult (*keine Richtung, sondern eine Generation*). The Romantic movement of German medicine originated in the Southwest, in the region around and about the Isar, Main and Neckar rivers. Its founder was the creator of the Nature Philosophy, F. W. J. von Schelling (1775-1848), whose passage from the chair at Jena (1798) to Bamberg (1799-1803), to its successor Würzburg (1803-1806), and to Munich (1806), to which the medical faculty of Landshut was transferred, marks the main locus of romantic activities in philosophy and medicine.[8] Spheres of influence radiated, however, from these foci to such universities as Erlangen, Freiburg, Leipzig, Tübingen and Heidelberg. During the earlier years of his professoriate, Schelling

[7] E. Hirschfeld: Romantische Medizin. *Kyklos*, Leipzig, 1930, III, 1-89.

[8] Hirschfeld (*op. cit.*, pp. 40-47) gives a spirited and circumstantial account of the ferment of intellectual and social activity at these university centers, of which Jena was regarded as the cradle of the Nature Philosophy. "It would be difficult," says Ringseis (Schelling's physician), "to convey to the present generation any idea of the foaming over of unbounded enthusiasm which activated and inspired us in this period, so different from now."

produced in rapid succession, the writings which were to make his influence decisive, viz., *Ideas toward a Philosophy of Nature* (1797), *On the World-Soul* (1798), *First Sketch of a System of Nature-Philosophy* (1799)[9] and *A System of Transcendental Idealism* (1800). A facile enthusiast, passing hastily from one position to another, Schelling is now regarded as one who philosophized brilliantly and in an eclectic manner, hastily appropriating ideas from one predecessor or another, but never creating a definite, consistent philosophic system, like Kant or Schopenhauer. His present position in the history of philosophy may be stated about as follows:

Kant's fundamental proposition is that only the surface appearance of things (*phenomenon*) is apprehended by our senses, while the essence or inmost nature of things (*noumenon*) is forever beyond our ken. His pupil Fichte dispensed with the master's distinction between subject and object and affirmed virtually that matter is only a manifestation of mind, whence reality exists only in our perception of it. Schelling, who was profoundly influenced by the findings of Galvani, Mesmer and Lavoisier, sought to improve upon the Fichtean idealism by reaffirming the actuality or objectivity of matter, but developed the notion of external nature as synthesis or interplay of opposing forces, positive and negative, attractive and repulsive, centripetal and centrifugal, expansile and contractile, oxidative and reductive, male and female (Polarity). Subject and object, real and ideal, mind and matter, then, have some vague, neutral substratum at which they can be synthetized as identical (The Absolute). Analogous to light, and its trinity of components, magnetism, electricity, chemical action, was the new Kantian concept of the living *organism*, with its components, irritability, sensibility and reproductive power. All these had again some common substratum of Identity. Nature is identical with our perception of it. Perception of this Identity, of the Absolute, of the center of gravity at which antinomies and polarities are fused and conciliated[10], is a function, not of the mind, but of "a higher organ of cognition" (*ein höheres Organ der Erkenntnis*), such as Goethe attributed to those endowed with mathematical genius.

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[9]This publication, written by Schelling at the age of 24, was hailed by Steffens in the *Zeitschrift für spekulative Physik* (I, 2, 121) as "the first live spark thrown into a dead chaos of dissipated energy" (Hirschfeld). In other words, the Romantic School was not a creator or fabricator of science, but rather a pace-maker for the more realistic generation which followed it. As Fr. Borden observes, its achievement was limited to its program (*Seiner Leistung besteht in seiner Intention*).

[10]"To reconcile contradictions is perhaps the highest function of the higher logic." Novalis.

We can best sense the far-reaching influence of this nebulous composite of philosophizing by a fugitive glance at the literature of the period. Emerson dabbled in it (*Transcendentalism, The Over-Soul*), Browning's Bishop Blougram played with it, and the Spinoza-Schelling doctrine of Identity is as recognizable in the tales of Edgar Poe (*Ligeia, Morella, William Wilson, A Tale of the Ragged Mountains*), as in Wordsworth, Shelley (*Adonais*)[11] or Emily Bronte:

> "And thou art now a spirit pouring
> Thy presence into all:
> The thunder of the tempest's roaring,
> The whisper of its fall:
> An universal influence,
> From thine own influence free,
> A principle of life—intense,
> Lost to mortality."

In some way, the basic concepts of this philosophy were in the air, had gotten across into English and American literature, but upon English, French and American medicine their influence was *nil*. Not so with the medicine of Southwestern Germany during 1800-1830. In the *Jahrbücher der Medicin als Wissenschaft* (1805-8), edited by Schelling and A. F. Marcus, the philosopher holds out the possibility of elevating medicine to the status of Nature as a whole, as something complete in itself and developing itself out of its own ideal elements:

> "Our present period is especially propitious, in that we are able to indicate, what many centuries have not been in position to indicate, namely the possibility of activating philosopher and scientist, chemist and anatomist, zoologist and physician to team-work toward the common goal of elevating the science of the organism and consequently medicine, to the height to which it should attain by gradual development."

> "Medicine is the crown and flower of all the natural sciences, just as the living organism, and the human organism in particular, is the crown and flower of nature."

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[11] Notably in the lines which Osler quoted:

> "He is made one with Nature: there is heard
> His voice in all her music, from the moan
> Of thunder to the song of night's sweet bird;
> He is a presence to be felt and known." *Adonais*, XLII.

"Medicine must become the general science of organic nature, of which its separate branches were hitherto like so many twigs only. To give it this comprehensiveness and inner unity, as well as the rank of a science, its basic principles must not be derived empirically or hypothetically, but must proceed from itself as philosophic principles."

"Here philosophy has no further task than to bring formal outward unity into the complexity at hand and to give a good name to physicians, whose science, from time immemorial, has been rendered ambiguous by poets and philosophers."

This nebulous program, today in process of realization, as far as biology or general physiology is concerned, was to be productive of some of the wildest medical theorizing conceivable, while its influence upon bedside practice, as we shall see, was to be baleful and baneful. The fatal fallacy in Schelling's application of Nature Philosophy to medicine lies, as Hirschfeld points out, in the wide rift between facile theorizing and the working out of such theorizing in actual experience and practice. Here Schelling and his adherents were driven to endless shifting and winding and tacking about, to no purpose whatever. They were blind to the fact that if medicine was to be advanced at all, it would be, not through philosophizing but by deliberate application of chemistry, physics and microscopy to the outstanding problems of the day. Due to the fact that it was a local emotional reaction against the materialism of the French *philosophes,* active within a limited area near the French frontier, the cult met with little opposition, nay, was applauded and patronized by Humboldt and Goethe and championed by such literary romanticists as Görres, Novalis and the Schlegels. Humboldt saw the Nature Philosophy as offering the possibility of a better explanation of vital phenomena than either chemical action or irritability, but sounds a note of warning against top-heavy theorists whose chemistry would be done in their heads rather than with their hands.[12] Goethe, like every one else, was attracted by the pseudo-physics of "polarity," and deliberately applied it, to good philosophic purpose, in his speculations on the morphology of plants and the

[12]Hirschfeld, *op. cit.,* 9.

theory of colors. Schelling postulated a general dualism throughout nature, e. g., in the magnetic polarity of the earth, and saw electricity as a balancing principle of opposing forces. His assumption of the ultimate unity of magnetism, electricity and chemical action in the scheme of nature finds some confirmation in thermodynamics (Helmholtz, Willard Gibbs) and in the subsequent work of Einstein. His notion of a natural ascending development (*Steigerung*) out of the lower forms of life into the higher foreshadowed the doctrine of evolution and was implicit in Goethe's speculations on morphology (metamorphosis) and the later findings of Darwin and Herbert Spencer. His third principle, that of cyclic processes and recurrences in nature, was as old as the Greeks (Heraclitus) and found its avatar in the Nietzschean concept of an "eternal return" of things. In Schelling's philosophy, however, the universe itself is conceived of as an organism, activated by a mysterious *anima mundi* (*Weltseele*) and it is just at this point that his reasoning becomes "romantic." Meanwhile, cyclic processes became the fashion in philosophy. Friedrich Schlegel and Görres even conceived of cycloid manifestations in history and art. If "history repeats itself," however, it is due to the fact that the human mind, as Spinoza saw it, is deficient in originality, "inadequate in ideas," and not to any mysterious general law behind such commonplace recurrences or coincidences. More remarkable was the Kielmeyer trinity of irritability, sensibility and reproductive power as the criteria of vital function (1793). Oken, on the whole the ablest biologist of the Romantic group, predicted a future for scientific pharmacology, anticipated the cell-theory of Schleiden and Schwann, and the notion of the origin of life from primordial ooze (*Urschleim*), as also the work of recent geneticists on intersexuality (Buff-Orpington hen) in his view of the dominance of the male principle in nature ("Ideally every child should be a boy"). Goethe and Oken were forerunners of Darwin. Indeed, as speculative biologists, the German Romanticists were far from contemptible. They were better biolo-

gists than doctors. It was through their passion for literary analogies, their propensity to play with ideas, that they were led into extravagance, whence Heine likened them to the schoolboys in Eldorado, whom Candide found playing with gold nuggets instead of marbles. Görres, whom Hirschfeld styles "the Proteus of the period," was so carried away by the idea of polarity that he made it the centric theme of books on sexual philosophy and world-history. Steffens postulated a sexual polarity between mammals (man) and birds. Adam Heinrich Müller, defined by Hirschfeld as "the androgyne (*Zwittergeist*) of political romanticism," labored the theme in sundry sociological and governmental relations. The romantic impetus toward whatever seemed new and strange made Görres a changeable chameleon, whose face, in later years, was described by the dramatist Hebbel as a battlefield of slaughtered ideas: "Every notion which has agitated the waves of German thought since the Revolution left its furrows upon his brow, and those furrows persisted, even after the Jacobin had subsided into the quietist." Görres began as an agitator, merged into a mythologist and wound up as an Ultramontanist, but was always ready to stray into whatever attractive by-path, particularly medicine, which he tried to teach to himself by working fourteen hours a day during eleven months of 1793. He took up the newer French chemistry, translated Fourcroy's Synoptic Tables of Chemistry in 1800, and in 1802-3, affiliated himself with the Nature Philosophy School by his lucubrations on dualism, polarity and "organomy." In 1805, he published an "Exposition of Physiology," with the sub-title "Organology." These writings were extensively reviewed *au grand sérieux* in the medical periodicals of the time, were even noticed by Goethe and later by Virchow. Görres became the leading expositor of Schelling, whom Virchow, in 1893, dismisses with the following sarcasm: "By bold incursions into the territory of physiology and pathology, Schelling succeeded in attracting the notice of physicians to himself and his ideas." Görres was abundantly ridiculed for pansexualism, priapism, etc., and

being a hard hitter and a master of billingsgate, retorted in kind. His Exposition of Physiology, a bit of "fresco painting" on a theme which became "the spring-board for all the philosophic theorizing of the time" (Hirschfeld), begins as follows:

"The task of physiology is to demonstrate that cosmography can be projected into the concept of the living organism, to translate individual biologic relations into their larger cosmic aspects, so that one may visualize the general relations of the concrete and clearly read in the light of the stars what is hidden in earthly obscurity."

The spirit at work is evidently the same Faustian *Erdgeist* which so agitated Carlyle:

"'Tis thus at the roaring Loom of Time I ply,
And weave for God the garment thou seest Him by."

Paracelsus, whom Hirschfeld rightly defines as a Romantic, expresses himself in much the same way:

"For medical philosophy must be so ordered that the ways of reason may be visualized, that it may sound in the ears as the fall of the Rhine, that the resonance of philosophy may be as readily sensed by the ear as the roaring of wind on the sea."

In his defence of Paracelsus, Görres becomes as turbulent and declamatory as Hohenheim himself:

"For now three hundred years, these old fellows have baited him along in his big swaddled trousers, and in every new text-book he has been lashed by fanatics as a dreadful example. It is plain, indeed, that the man does not write his native tongue correctly; he never distinguishes between this and that; but native fire he has, as all must admit who have studied him. He means well when he substitutes for the evils he combats something worse. He is a defender of the principle of progress. His enemies have delivered him up to posterity as a coarse, fantastic fellow. They cite with ease his uncouth, boorish outbursts; but of their own eternally spiteful, implacable enmity; their venomous, knavish, incessant nagging; their sly lookout for every weak spot in his armor; in brief, of the whole wicked heart-rending system whereby spirits of their ilk hound a stronger spirit, who passes on, unconcerned over the little herb-gardens they have planted or some occasional head of cabbage he has trampled, of all this they are wisely silent. The mob listens to the prating of these elders, carries it further from street to street, whence it passes into history and becomes authentic. And now, for the first time, the victim of calumny begins to come into his own, and he can now be useful as a witness at the bar of justice, like every other honorable man. What happened to him has hap-

pened to many. It is well that the period of boorishness in our literature is over for a while, but it was necessary in order to give place to something better. For the mob would trample majesty itself into the mire, in every public procession, were it not for the Swiss, who march ahead and clear the way with their halberds."[13]

Paracelsus was also taken up by Novalis and Friedrich Schlegel, and although attacked, in a somewhat senseless way, by Hufeland (1797), was finally rehabilitated by the biography of Rixner and Sibner (1819) and the later researches of Sudhoff.

Of all the literary romanticists, the most striking and outstanding was Friedrich von Hardenberg (Novalis). A poet of ultra-refined disposition, like Hölderlin too sensitive and highly civilized for this world, doomed to die prematurely of consumption, Novalis read his own sad fate into his interpretation of life and nature. In spirituality (Hymns to the Night), he resembles Shelley, whose hymn "To Night" was set to choral music by the romantic Hungarian composer, Robert Volkmann. Novalis was a mystic and a mage, who read into Schelling's concept of a World-Soul the idea of God. In his dualisms, his polarities, his views of the physician as a *magus* and of life as a disease, his confidence in "the magic wand of analogy," he reveals gnostic leanings (Hirschfeld). Schelling unjustly regarded the poet in the light of a butterfly, flitting around the surface of things without penetrating into their essence.[14] In medicine, Novalis favored the Brunonian system ("Brown is the physician of our time"), yet admitted that Brown had never once illuminated the nature and origin of disease. Novalis identified the outstanding constitutional peculiarity of his generation with that of his own make-up, namely the fragile or asthenic. The main interest of his reasoning about medicine centers in his opposition of the romantic *psyche* to the classical (Hippocratic) *physis* (Hirschfeld). He was the first to con-

[13]Cited by Hirschfeld, *op. cit.*, 19-20.

[14]"Ich kann diese Frivolität gegen die Gegenstände nicht gut vertragen, an allen herumzuriechen, ohne Einen zu durchdringen." Aus Schellings Leben. In Briefen. Leipzig, 1869, I, 431. Cited by Borden.

sider the psychology of the sick patient, the theme so well elaborated latterly by Sigerist.

> Man is born unto suffering, he says, and diseases, particularly chronic diseases, are an apprenticeship in the art of living and in the development of mind and spirit. We are only just beginning to learn how to utilize them as the most interesting stimuli to reflection and subsequent activity. An index of disease is the instinct toward self-annihilation. May we not use it as an incentive to higher syntheses? The ideal of perfect health is only of scientific interest. The feeling of healthiness, of well-being, of contentment, is entirely personal, accidental and indirectly dependent upon external circumstances. Diseases are transcendental phenomena of heightened sensation. Life exists only on account of death, and is itself a disease, an abnormally exaggerated activity. Emotions are like drugs, not to be trifled with.

In all this, as in his romantic psychiatry, the mysticism and gnosis of Novalis are self-evident. His line of thought illustrates the morbid and mortuary aspect of romanticism, the turning away from the robust realities of life, which Goethe had in mind in his memorable criterion.

Thus far, we have considered the medical and biologic speculations of purely literary romanticists. We now come to the literary output of a generation of physicians dominated by the Romantic cult, an output considerable in quantity, bizarre in content and, in no sense, scientific in character. This prolix literature has been analyzed to good purpose by Hirschfeld, whose bibliography covers over 1500 items. It is plain, from the very titles of these books, that mere words and names meant more to the medical Romanticists than the things they stood for. Like savages, they commonly mistook the word for the thing and gloried in inventing queer terms, such as biosophy, eubiotics or tellurism, for concepts of the vaguest order. Physiology was equated with "dynamology" and there were even second-rate writings on "dynamic pathogeny" and "dynamic materia medica." Books were published on "The analogy between cognition and the reproductive instinct" (Baader) and on "The resemblance between cholera and the torpidity of hibernating organisms" (Jahn). In 1825, Wilbrand, at the meeting of German Naturalists

and Physicians, announced that the circulation of the blood has no foundation in fact, and the theme was actually posted for discussion by Oken. Enthusiasm for magnetism, mesmerism and odic force piled up a gigantic literature. Krause lectured on "psychic anthropology" and Purkinje (save the mark!) on "physiological anthropology." From the old gnostic notion of the Fall of Man (man as a degenerate god, the Devil as a fallen angel), Schelling postulated that Nature arose from a decay or decline of the universe (1797), whence his physician, Ringseis, extended the 18th Century notion of sin as the cause of insanity to disease in general. Such mystics as Heinroth, Windischmann and Ennemoser also dabbled in this demoniacal ætiology of disease. Opposition to athletics and physical exercise was part of the cult, and was maintained particularly by Henrich Steffens (the *Turnerfeind*), whose exaggerated self-esteem was ridiculed by Heine (Baas). A further step backward was the "Comparative Ideal Pathology" (1839) of Carl Richard Hoffman, who defined disease as an ideal organism in process of reversion to a lower type, so that its apparent abnormality in man may be normal in beasts. Thus rickets is a reversion to invertebrate morphology, as if man were trying to change himself into a boneless organism or mollusk. Chlorosis is a transformation to the chrysalid stage, phthisis to the sylph-like, and menstruation is comparable with moulting in the lower animals. Hæmorrhoids are "crooked intestinal limbs" and cancer is a reversion to polypoid existence (Baas). Döllinger, father of the theologian, regarded fertilization of the ovum as "something between irritation and infection," the product being a polyp. Kieser maintained that life is an oscillation between solar and telluric poles, whence sleep is a lower form of existence and horse-radish is an anti-telluric remedy (good for somnambulism). Yet he was honored with all the titles and decorations available in Prussia, Saxe-Weimar and Austria, became president of the Caroline-Leopoline Academy (1858) and is credited with a mortality of only 2 per cent out of 20,000 patients treated at his Clinic (Jena) in 17

years. Joseph Löw published a prize essay "On the Urine" (1809), the preface of which is described by Hirschfeld as a romantic dithyramb, drawing on Platonic myths and defining the Middle Ages as the "lofty romantic period of medicine." Given the time of its publication (before Fehling), the actual content could be little more than uroscopy. G. H. Schubert wrote on "The Nocturnal Aspect of Natural Science" (1808-27), also "A History of the Soul" (1850). Carl Gustav Carus expanded Schiller's verse

"Es ist der Geist der sich den Körper baut"

to the following dictum: The soul is the formative principle of the body, the body is a revelation of the soul."[15] J. P. V. Troxler, of Bern, maintained that the factors of life are light and gravity, that respiration and digestion are identical in tendency and that "excretion is secretion directed externally and secretion is excretion directed internally." In the view of Baas and the sounder historians, it was necessary and sufficient for the medical Romanticists to carry their fling into extravagances of this kind in order to clear the way for scientific realism. Lop-sided exaggeration in any school of medical thought, says Baas, resolves itself into its logical opposite. The Romantics illustrate the dictum of William Blake that the road to wisdom lies through excess. But their activities were an intermezzo, circumscribed in space and time, and existing on an entirely different plane from the "enlightened" rationalism of the 18th Century and the scientific objectivity (*Sachlichkeit*) of the later 19th Century.

And what practical results, in diagnosis and therapy, came out of all these flights of fancy and bouts of verbosity? In the findings of Hirschfeld, nothing of consequence! Brown, at least, saw diseases as relative stages of excitement (sthenic, asthenic) with corresponsive exhibition of sedatives and stimulants in lieu of treatment; but beyond a brief intermezzo of Brunonianism, Hirsch-

[15]Had the anatomists of the 17th-18th centuries had any notion of ductless glands and internal secretions, they would doubtless have located the soul in the endocrine system.

feld finds not the slightest divergence from old established lines of therapy in the hospital records of Bamberg, Munich, Heidelberg and Berlin during the Romantic period, nor any evidence of therapeutic change or innovation in the German medical periodicals and private memoirs of the time. From Röschlaub and Marcus (the leading German exponents of Brown's theory of disease as excitability), Schelling picked up a few wrinkles of Brunonian therapy in the Bamberg Hospital, and thereby hangs a tale. Caroline, wife of August Wilhelm von Schlegel, had by her first husband a daughter, Auguste Boehmer, to whom Schelling became engaged. In 1800, Auguste fell ill of dysentery at the mineral bath at Bocklet, and Schelling, who had previously interfered in the sick-room when Caroline was ill, meddled with the case of Auguste to such purpose that she died shortly thereafter. The inside history of both cases is recorded in the correspondence of Caroline's spirited sister-in-law, Dorothea, wife of Friedrich Schlegel. In the first instance, Schelling nagged Hufeland, who was in charge of Caroline's case, so that, in dudgeon, he applied Brunonian stimulants to what seemed "nervous fever." In the second, Dorothea writes: "She (Auguste) did not really die of dysentery, for as Hufeland says, people no longer die of this disease; nor could the Brown system have done any harm, as the unknown attending physician was non-Brunonian, if Schelling had not meddled with the treatment, so that Röschlaub found her dead when he arrived. The latter now maintains that her disease was fatal at the start." In spite of Röschlaub's attempt to defend him, this excursion into malpractice cost Schelling dear, for Caroline, the mother of the dead girl was the Muse of the Romantic movement, the leading literary lady of her place and time. Feeling ran so high in Jena that a medico-legal report on the case was demanded of Marcus and Röschlaub, while Schelling came within an ace of being dismissed from his university chair.[16] Two years later, Caroline divorces Schlegel and

[16]Hirschfeld; *op. cit.*, 39-40.

marries Schelling. Nine years later, she dies suddenly of a choleriform seizure and Schelling's report of the case reveals the same incompetence, amounting to impotence in the treatment of disease. These episodes constitute the *reductio ad absurdum* of Romantic medicine, the ultimate effect of which was to create "a chaos out of therapy" (Hirschfeld). Characteristic of their brief intermezzo was the fading away of the Romantics. Schelling, having lost caste in consequence of his attempt to play with medicine, merged his philosophy of Identity into a pietistic philosophy of Revelation and by 1819, had become dull, faded and corpulent. August von Schlegel and Görres, in Heine's reading, fare even worse. Friedrich von Schlegel, grown stout and self-indulgent, eats oranges and drinks wine, while his wife, Dorothea, shivers with ague. A few years later, she writes to Henriette Herz: "All that we children of earth used to call the Poetry of Life is far, far away! I could say with you that I have had enough of it. But all the same, I will not say it and I implore you not to say it again." By 1830, the School of Nature Philosophy has merged into the Natural History School, in which Schönlein, Canstatt and Fuchs attempted to revive the old Sydenham doctrine of a natural history of diseases and to classify them like plants, with a terminology as bizarre as that employed by Piorry in France. By 1840, the main protagonists are dead, the field is evacuated and the massing of new forces, such as the strictly scientific journals founded by Haeser (1840), Roser and Wunderlich (1842), Henle and Pfeufer (1844) or Liebig's cannonade of 1840,[17] is to no purpose; their volleys are discharged into empty space, where there is neither adversary nor rear-guard action. Wunderlich (*Wien und Paris*, 1844) and Schleiden (1844)[18] pronounce belated funeral orations over the remains. Toward the end of the century, Oken's text-book on natural history (1813-27) has become a Christmas pic-

[17]Liebig: *Ueber das Studium der Naturwissenschaften.* 1840. Cited by Hirschfeld.

[18]Schleiden: *Schellings und Hegels Verhältnis zur Naturwissenschaft.* Leipzig, 1844. Cited by Hirschfeld.

ture-book for children (Baas). Rokitansky remained bitter all his life about the school of Nature Philosophy, which had trailed off into nothingness long before the Revolution of 1848 cleared the atmosphere for the organized advancement of scientific medicine in Germany. With the advent of the New Vienna School, Germanic medicine crosses the Rubicon, and by 1850, medical science (Virchow, Helmholtz) begins to come into its own. But the land of brass tacks reality is still far distant, and it took perhaps a World War to establish our present acid tests: Get that patient well: Stop that epidemic.

The German romantic cult, with its view of the universe as an organism, its gnostic tendencies (dualism, degeneration, polarity, magic), its harking back to Mediævalism, its mania for fashioning its own theories out of hand, has been studied with more sympathetic understanding by the recent post-bellum generation than by the generation which followed the Revolution of 1848. Heine, who changed over from a sentimental to a satirical writer after 1848, likened romanticism to a lunatic asylum (Charenton). Baas, a German of the Germans, calls the romanticists "Teutomaniacs." Of late years, however, the cult has been subjected to intensive study on all sides, with many fine spun distinctions as to the particular *nuances* of thought and feeling which may be properly labelled "romantic."[19] Romantic tendencies have even been de-

[19]Particularly F. Borden: Die deutsche Romantik und die Wissenschaft, *Arch. f. Kulturgesch.*, Leipzig and Berlin, 1930, XXI, 44-80. The points made are: that the German Romanticists conceived of science not as autonomous, but as heteronomous, secondary and ancillary to metaphysics and æsthetics and ultimately theology, primacy being assigned to the Absolute (unification or identity of polarities). In this scheme, the only real science was poetic and æsthetic. Truth and poetry (Goethe) became identical. Beauty was not so much the pathway to truth (Schiller) as truth itself (Keats). The universe was conceived of as an organism created by an artist, rather than by the *theos geometer* of the Deists who followed Newton. In the final phase of romanticism, science is based upon revelation (Schelling) and becomes virtually identical with religion (Görres). Romantic science was therefore literary, æsthetic, fragmentary, irrational in approach and attack, limited to a grandiose program, using any isolated fact as a springboard for extravagant fantasy, in brief, a flight into unreality which cannot be judged by the rigorous standards of knowledge gained by experience and experimentation.

tected in writers on law, like Savigny,[20] or in secular historians like Ranke or Michelet. The medical phase of the movement is best understood by considering it in historical sequence, as a natural reaction against 18th Century formalism and a natural concomitant of the German struggle for freedom from the Napoleonic yoke. The tendency of the physicians of Southwestern Germany was to avert their eyes from the France of Laennec and Pinel, and to fashion medical theories all their own, with the consequences we have seen. The point of departure was John Brown's theory of diseases as degrees of excitation, which had an immense temporary vogue in Germany. Then came a period of anarchy, in which the followers of homœopathy, animal magnetism and Nature Philosophy competed from three different camps. From the ensuing muddle, hard-headed, sensible men like Heim and Reil (Berlin), Frank (Vienna), Sprengel and Krukenberg (Halle), Nägele (Heidelberg) and Wigand (Hamburg) stood aloof, while Hufeland (Berlin) and Conradi (Göttingen) drifted into "a flabby, thoughtless empiricism" (Rohlfs). There followed the Natural History School (Schönlein, Canstatt, Fuchs), the School of Rational Medicine (Henle, Pfeuffer), the Physiological School (Roser, Wunderlich, Griesinger) and the Nihilistic (New Vienna) School, each having the negative merit of putting its predecessor out of business (*"Jeder dieser Lumpenhunde wird vom andern abgethan"*).[21] The term and end was the scientific group, headed by Virchow and Helmholtz (1850). The merits of the Nature Philosophy School, in this sequence of development, were that it gave an impetus to the study of general physiology (biology) by stressing the Kantian view of the living animal or vegetable as an *organism,* and that it demonstrated the futility and imbecility of irresponsible theorizing in medicine through the chaos created thereby and its tragic consequences in the actual treatment of disease. One or two belated Roman-

[20]The imputation is contested with considerable heat in the *Allgemeine deutsche Biographie* (*sub voce* Savigny).

[21]Cited by Rohlfs. Probably an utterance of Marx.

tics developed ironical tendencies, like Heine. Marx, who kept his head through all the changes and fashions of the hour, reveals romantic leanings in *Akesios*. The psychologist Fechner apparently burlesques the cult in his Comparative Anatomy of Angels, his proof that the Moon is made of Iodine, his paradox that shadows are alive. The abiding impression is that of Heine's learned philosophers playing with ideas, as children play with marbles. Romantic science was surd (irrational) in the mathematical sense, rather than absurd, a circumscribed, pocketed episode in the history of ideas rather than an actual link in that chain of continuity which is the making of real, useful knowledge. In maidenly fashion, the German Romanticists drew their skirts away from experiential, experimental science as something "cold," "empirical," "atomistic," "mechanistic," but the despised, plodding Cinderella is actually responsible for such coarse approximations as the quasi-omniscience of radio, television, telephone and dictagraph, the pseudo-omnipresence of aviation, the pseudo-omnipotence of machinery or high-power explosives, suggesting Flaubert's vision of science as a monster fain to devour us. The assertion of Treitschke that the Romantic movement had more lasting effects upon science than upon poetry is, of course, utter solemn nonsense. Romanticism was not so much a "movement of erudites" (Nietzsche) as of virtual artists and poets, who dreamed of a Promised Land they were not destined to enter, whose ambition to correlate the total scheme of nature and the universe with the haphazard aspects of life stopped short with the grandiose program of their intentions. The charm of men like Novalis or Tieck is that they were men of poetic, artistic nature and the romantic aspiration of Goethe (*"ins Unendliche zu schweifen"*) reverberates even in the closing measures of *Tristan*. Since the aim of the Romanticists was synthetic rather than analytic, limited to postulates and opposed to experimentation and the verification of premises, their effect upon the advancement of science could only be *nil*. As physicians, they were total failures, with a champagne appetite for unattainable ideals

of a metaphysical or æsthetic character. The contention that the modern view of history was engendered by the Romantic cult has been exploded. The Romantic view of history was again artistic and metaphysical. Like Conrad and the later novelists, the Romanticists saw that human life in chaotic periods is apt to be irrational and meaningless, whence they burned the bridge between reality and reason, denied that experience is science and sought to correlate the inexplicable aspects of human history with some mysterious "higher, inner necessity" (*fatum*), as in the Greek drama or *Götterdämmerung.*[22] Their contribution to history is implicit in the dictum of Novalis that "there is more truth in fables and legends than in learned chronicles,"[23] which is really subject matter of ethnology and folk-lore. Novalis affirmed that the historian must be a poet and believed that there may be a mysterious number-lore in chronology. All along the line, the scientific contribution of romanticism was limited to its good intentions. The great triumphs of German romanticism were in such things as The Flying Dutchman or Lohengrin, Heine's Book of Songs, Schumann's Piano Quintet or his Concerto in A minor. One has a tender regard for these things, for in them, we revive the impulses and emotions which elevated, sustained and animated our youthful selves. The medical Romanticists failed through lack of the self-direction and self-discipline which Goethe affirmed

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[22]The only determinism of this kind admissible by realistic historians would be the innate stupidity and fanatical cruelty whereby the human animal has penalized and tortured himself and his fellows through the ages. Thus, Winwood Reade's "Martyrdom of Man" becomes a kind of popular textbook in new countries like Australia, and even the older generation perceived Wotan to be as big a bore as "blaming it upon God." In like manner, the superman of recent vintage is invariably self-appointed and sure to reveal himself as a super-jackass, like the paralytic *Gottmensch* in Dr. André Couvreur's novel: *Je suis le sur-homme! Je suis Dieu!*

[23]Identical in substance with the terminal sentence of Emerson's essay on History. Excellent use is made of this idea in Professor Georg Sticker's learned essay on the prehistory of epidemiology (*Sudhoff Festschrift.* London, 1924, 1-62).

to be essential to substantial, lasting achievement in any direction—

"Vergebens werden ungebundne Geister
Nach der Vollendung reiner Höhe streben,
Wer Grosses will, muss sich zusammenraffen;
In der Beschränkung zeigt sich erst der Meister,
Und das Gesetz nur kann uns Freiheit geben."

F. H. GARRISON.

ANNUAL GRADUATE FORTNIGHT

Disorders of the Circulation
October 19 to 30, 1931

ADDRESS OF WELCOME*

JOHN A. HARTWELL

President, The New York Academy of Medicine

The Graduate Fortnight is now established as an integral part of the Academy's educational program. That it has more than local interest is shown by the fact that our guests come from all sections of the United States and from among our friends across the seas.

One is pleasurably impressed with the avidity with which the medical profession grasps every opportunity to raise its efficiency in the fight against sickness. It is now a well accepted axiom that the student days of the doctor are never ended so long as he is in active work and, in many instances, even after that period. There is no place in the rank of our profession for the man who believes that he has accumulated sufficient knowledge to carry on without a constant effort to add to that knowledge. It may be considered as a blessing to the medical profession in these times of particular stress and anxiety, that such is the case. In all periods of economical hardship, the burden that is thrown upon the doctor is enormously increased while his economic compensation for carrying this burden is decreased often to the straining point. The doctor sees himself confronted with the serious problem of balancing the budget. His tradition requires that he shall give his services with scant regard to the budget in such times as these. It is fortunate, therefore, that he

*Delivered October 19, 1931.

has the agreeable distraction of forging ahead in his educational development. That these facts are appreciated was demonstrated last week by the gathering in this city of some twenty-five hundred practicing surgeons from all parts of the country, to learn from the leaders of the profession. No one can believe that these men came here without real financial sacrifice. They came because they could learn; and it was a great privilege to see the cheerfulness and courage with which they faced the future.

This gathering is a further demonstration of the same fact and the Academy of Medicine extends to you all a most hearty welcome, with a feeling of satisfaction that it is able to present to you something that appears of real value and that you are so enthusiastic to take part in.

During recent years the Academy has been making an intensive study of the opportunities for the continued education of the doctor in this community. It is deeply concerned to see that, after the medical student receives his degree, there are opportunities as internes in the hospitals which will give him full educational value for the services he renders to his hospital. It is equally concerned to know that, in that most critical period after he has completed his interneship, he is not left entirely stranded insofar as educational facilities are concerned. There exist in this community ample facilities for continuing the education of every individual among our younger confreres. It is the responsibility of the Academy to see that these facilities are made available and to stimulate the younger men to utilize them.

Our investigations have shown that there is a capitalization of well over one hundred million dollars for undergraduate medical education and its associated activities, within the boundaries of New York City. In contrast to this there is a pitifully small amount expended upon carrying the doctor forward as an educated practitioner. There are those among us in the Academy who do not hesitate to say that the New York Academy of Medicine should definitely commit itself to this responsibility. The reor-

ganization of our undergraduate medical schools to carry them to their present grade of efficiency entailed many years of intensive work and the expenditure of great sums of money.

I submit for your consideration the proposition that a further step in medical education is equally vital and that the educational leaders must take this burden upon their shoulders and carry it forward so that every practitioner in this community will have the maximum educational equipment that his natural endowments will permit him to attain. This Graduate Fortnight is one of the elements in this program but its scope is necessarily limited and it will mainly act as a stimulus to further endeavor.

In this spirit we welcome you as our Fellows and our Guests, with a certain feeling of pride in what already has been accomplished and a greater feeling of hope for the accomplishments of the future.

INTRODUCTORY REMARKS*

EMANUEL LIBMAN

Chairman, Committee on Graduate Fortnight

Mr. President, guests, Fellows of the Academy, ladies and gentlemen. The members of the Committee on the Graduate Fortnight in whose name I speak this evening, wish to express their appreciation to the officers of the Academy for the privilege of taking an active part in preparing the program of this, the fourth Fortnight. They have had only pleasure in carrying out their duties because of the advanced purposes of the Academy and the enthusiastic and cordial coöperation of medical schools, hospitals and individuals of this country as well as of Canada.

In choosing the subject for the Fortnight several objectives have always been kept in view. Subjects were to be chosen that were of timely interest and for the exposition of which New York City was best prepared. Furthermore, whenever possible, topics were to be preferred which would permit of participation by men engaged in the different branches of medicine. Finally, the educational value to the lay public was to be kept in mind.

The programs of former years permitted participation by men in surgery and the various specialities to a much greater degree than this one. The field of the cardiovascular system was chosen this year because of its great importance and also because this country has so much to offer in the way of contributions to it—not to speak of New York itself as one of the leaders in this branch. Directly the subject was chosen, it was natural for all to think of having Sir Thomas Lewis take the leading part. With his kind acceptance of the invitation of the Academy the success of the Fortnight was assured.

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*Delivered October 19, 1931.

The activities which begin tonight consist of lectures at the Academy, lectures and clinical demonstrations at medical schools and hospitals and exhibits at the Academy and elsewhere. A suggestion was made to members of the staffs of hospitals that under the auspices of the Academy they invite speakers from outside New York and from local hospitals to participate in the program. This suggestion was cordially received. As a result, hospital programs have become coördinate in importance with those of the Academy, as they should be.

The Exhibit part of the program was initiated last year. The present exhibit as provided by the Committee on Exhibition consisting of Drs. Gross, de La Chapelle and Mond, is an extensive and remarkable one. No such demonstration of the subject of cardiovascular disease has, as far as is known, been presented anywhere. The Committee and the individual exhibitors have done an arduous piece of work which will surely be of great profit to all, and will lend distinction to the Academy. The Committee has arranged to have practical demonstrations by the authors of individual exhibits and continuous demonstrations of all exhibits from two to eleven p.m. by a group of 60 volunteers. Although perhaps not quite correct to single out any individual, we cannot refrain from drawing attention to the generous attitude of Dr. Maude E. Abbott of Montreal, who has come here with an extensive exhibit and who will stay for the entire period of the Fortnight, to teach the embryology of the cardiovascular system and to demonstrate cases of congenital heart disease.

The Exhibit of the literature of the subject of the Fortnight is a very extensive one, going back to the time of Hippocrates. It has been prepared under the supervision of Dr. Malloch, Librarian of the Academy, aided by his staff and Dr. Charles K. Friedberg. This exhibit will be demonstrated at times to be announced in advance.

When one notes not only the great interest manifested by the medical men of the city but also the presence of so many physicians from all over the country and even from

distant points in Canada, one is again impressed with the desire of the medical man to learn. The physician, as of old, is the student and even when he has become the teacher, still remains the student.

The work of the Committee has been much lightened by the building up of a technic by the former Chairmen of the Committee, Dr. Ludwig Kast, who originally suggested the institution of these exercises and Dr. Harlow Brooks, and by Dr. Nellis Foster, Chairman, and Dr. Frederick P. Reynolds, Medical Secretary of the Committee on Medical Education, of which the Fortnight Committee is a subcommittee.

The Wesley M. Carpenter Lecture

MUSCULAR PAIN IN INTERMITTENT CLAUDICATION*

SIR THOMAS LEWIS

London

The term intermittent claudication seems first to have been used by Bouley in 1831 to describe a condition of lameness in the horse, developing after a short period of exercise, and caused by obliteration of the main vessels of the limb; his account was followed by that of other veterinarians. In 1846 Brodie and later Charcot noticed a similar condition in human patients suffering from senile arteritis or from aneurysm of the common iliac artery. Erb's collection of clinical and pathological observations led to wide recognition of the malady and served to establish that obstructive arterial disease is the usual anatomical defect and that lameness developing during exercise results usually from pain. It is with the origin of this pain that the present lecture deals.

Charcot's view was that loss of blood supply leads to cramp of the muscles, regarding this cramp as comparable to cadaveric rigidity. Marinesco recognised that the blood supply to the muscles was adequate during rest but not during work. Goldflam and Erb held similar views but referred to the possibility of the pain arising in the arteries themselves. Erb, too, had in mind the possibility of a functional element in the form of vascular spasm, an idea

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*Delivered before The New York Academy of Medicine, October 20, 1931, in connection with the fourth annual Graduate Fortnight.

The text is an abstract of the lecture. The original observations are published in full in *Heart*, 1931, *XV*, 359; and were made with Dr. G. Pickering and Dr. P. Rothschild in the Department of Clinical Research, University College Hospital Medical School, London.

which has received support from other writers and has considerably influenced subsequent writings.

The idea that cramp is present when the moving limb becomes painful sprang from early accounts of general rigidity in the affected limb during the attack both in the horse and in man. Usually, however, cramp in the sense of tonic contraction is not described and it is manifest, both from past records and from numerous personal observations, that cramp is unessential to the production of pain. Thus it is not at all clear as yet how ischæmia leads to pain.

In investigating the pain of intermittent claudication, an important step is taken when it is recognised that the pain experienced by our patients can be reproduced exactly in normal limbs to which the blood supply is previously shut off. This conclusion has been formed by Zak, Brown and Allen and others. It is so necessary to be certain of its truth before proceeding, that it has been examined thoroughly in observations including a close comparison in the patient of the abnormal leg with the other leg, the latter being less affected or appearing normal. The muscles of the two legs are given work to do under strictly controlled conditions, and the time at which pain develops and the precise situation and character of this pain are noted. It is found that when the circulation to both limbs is obstructed and they are similarly exercised, pain arises in the two, normal and abnormal, at precisely the same time and in similar situations, and that the pain is of exactly the same kind in both limbs. It is also stated by the patient that the pain reproduced is exactly the same as that produced by walking exercise. In cases in which the disease in the abnormal limb is severe, it is a matter of indifference whether the circulation to this limb is artificially obstructed or not, exactly the same form of pain appears and, if it does not occur in the usual time period, it is not long delayed. It has also been shown that pain having precisely similar characteristics occurs in normal subjects when the circulation to the limb is obstructed and the mus-

cles are similarly worked. In saying that the pain has similar characteristics, reference is made to the fact that the pain is aching in quality; that it is a continuous pain and that, appearing under circulatory arrest, it continues so long as the bloodflow remains stopped; that the pain is accompanied by local tenderness; that it can be brought about in this or that site by throwing the strain particularly upon this or that group of muscles. Most important of all, the times taken for the pain to begin and to become intolerable are the same in all instances, normal and abnormal, provided that the circulation in the muscles is brought to the same state in all during exercise. These observations clearly prove that the problem of the pain studied is independent of a pathological state of the tissues from which it arises, and that in the patients it is purely a problem of disturbed circulation.

Once it is proved that the pain is identical in patient and in normal subject, the normal subject can be used for further investigation, and it becomes a matter of indifference whether the leg or the arm is used; most of our observations have been upon the forearm.

Theory of arterial spasm.

According to the view especially advocated by Zak, the pain of intermittent claudication is due to spasm of the arteries of the limb, the arterial spasm arising out of ischæmia. Actually this view may be disproved by a simple method. The limb is enclosed in a plethysmograph and the rate at which blood enters it is estimated by the method of Hewlett and Zwaluwenberg. The circulation to the limb is arrested and the arm is worked until severe pain arises in it; at this instant the circulation to the limb is released and the rate at which blood enters is again estimated; it enters at a velocity greatly in excess of the value for the resting limb and it enters at this increased velocity from the instant of release and while pain is still present. It is perfectly clear from these results that the idea that the vessels of the limb are in a state of spasm during the

period of pain is erroneous; on the contrary, they are dilated.

Pain the product of muscular contraction.

In further investigating the nature of the pain, a simple device in the form of an isometric recorder has been used. The movement mainly studied has been that of a simple grip, which involves the muscles of the thenar eminence and the muscles of the forearm. It is a movement that can be nicely controlled and is in other ways convenient, the amount of exercise taken is precisely known, the rhythm of movement being usually one contraction a second and the grip maximal or of lesser but known strength. Using this device and proceeding with the test from an adequate preliminary period of rest, the result of exercise with the circulation to the limb stopped is surprisingly constant in the same individual and from one individual to the next. While the beginning of pain may not be very sharply defined, the time at which it reaches its intolerable point is almost critical. It is about a minute and a quarter and it does not usually vary more than a few seconds in repeated tests; the result is so constant for a given set of circumstances that the test may be employed safely in testing the effects of varied circumstances.

A very remarkable fact is that the pain which develops on exercise, while the circulation is arrested, vanishes completely within 2 to 4 seconds of circulatory release, but if exercise ends and the circulation remains arrested, pain persists until the flow of blood returns. The pain persists during circulatory arrest substantially unchanged and at or about the particular intensity to which it has been brought (slight, moderate or severe) during the previous exercise. From these observations we have been led to conclude that the pain under consideration must be determined by a chemical (or physico-chemical) stimulus developed in the muscle mass during its exercise, and that the stimulus is a stable factor during the period of rest.

Lack of oxygen not the direct factor.

It is easy to show that the effect of lack of oxygen upon the nerve endings is not directly responsible for pain; thus, a preliminary period of 10 minutes complete obstruction of bloodflow to the limb, causing as it does considerable loss of oxygen, does not diminish the time taken for pain to appear in a succeeding period of exercise. Another and very conclusive experiment is the following. The usual test exercise is continued under circulatory arrest until pain appears and the time is noted. After a period of rest the test is repeated in exactly the same way but the exercise is stopped a few seconds before pain is anticipated. The pain does not develop even if the arterial occlusion is prolonged for a further 5 minutes. If the pain were attributable to lack of oxygen it is clear that at the instant exercise ended the amount of oxygen in the tissues would have declined almost to the necessary level. Yet although during the immediately succeeding period oxygen will still be used up rapidly, owing to the oxygen debt established by the muscles, no pain develops. Thus, the view that in this experiment pain fails to develop simply because oxygen deficiency is not carried far enough, is untenable.

Pain related to amount of exercise.

The relation of pain to the amount of exercise taken is easily demonstrated. Firstly, if the rhythm of the contractions remains constant but the tension developed is increased, the beginning of pain is correspondingly expedited; and, secondly, if the tension developed at each contraction is kept constant but the rhythm of contraction is doubled, then the period over which exercise has to be continued to produce pain is approximately halved. The relation of pain to the amount of energy expended is shown by these observations with much precision.

"Factor P".

From the experiments so far described, and from further evidence presently to be given, it is concluded that

when muscular exercise is taken in the absence of blood supply it leads to pain, and that the stimulus actually responsible for the pain arises directly or indirectly out of the contraction process; for reasons that will appear later we assume this stimulus to act in the tissue spaces. When muscle contracts, changes such as a release of metabolites occur within its fibres; an obvious possibility is that such metabolites diffuse out and constitute the stimulating agent in the spaces; this conclusion, however, is one that cannot be accepted finally as there are other possible explanations. So it becomes necessary for the moment to keep the relevant changes within and without the fibre as separate ideas, and we shall do so by calling the latter "factor P" because it is the stimulus to pain. So long as there is no bloodflow, "factor P" remains stable; it is cumulative, increasing with each muscular contraction and irrespective of time. It rises first to a level adequate to bring pain, then to higher levels associated with increased pain; being stable during circulatory arrest it maintains the pain between muscular contractions and after exercise has ceased.

Recovery.

The relief of pain on releasing the circulation is not to be interpreted as meaning complete recovery of the underlying process within the muscle fibre, but only that the accumulation of "factor P" has been reduced below the pain level. It can be shown that recovery takes longer; exercise is taken from rest with the circulation stopped and pain is noted to develop to the intolerable point in a given time period; the circulation is released and after a short period of rest is stopped again and the exercise repeated. If various periods of rest are allowed to intervene between tests, it is found that the shorter the period of rest the quicker intolerable pain appears in the subsequent test.

Muscular exercise with bloodflow free.

When exercise is undertaken with the circulation free

there may be a little ache in the arm, but pain of the character here studied does not arise; from this it is unnecessary to conclude that "factor P" fails to develop under these circumstances, since conceivably it rises with contractions and falls in the intervals, and thus fails to reach the pain producing level. From this standpoint it is important to observe that muscular exercise with free circulation shortens the period required to produce pain in the subsequent test.

It has just been shown that during muscular exercise with the circulation undisturbed, a process of accumulation relating to the development of pain occurs, although pain does not appear during that exercise. The accumulation in question is regarded as happening within the muscle fibre; it is not an accumulation of "factor P". From this standpoint a curious phenomenon which we term "latent pain" is relevant. If exercise is undertaken with the circulation free but the bloodflow is arrested at the instant exercise ends, there is no pain, but pain develops after a latent period more or less prolonged and may become not only distinct but severe. This latency cannot be attributed to latency in the formation of "factor P"; for no such delay is suggested by other relevant observations. If the circulation is arrested, "factor P" accumulates to given levels while exercise is proceeding, and is maintained at these levels, whether they are sufficient to be pain producing or not, if exercise ends and the circulatory arrest continues. But if the blood is flowing during exercise, then, although up to a point the chemical changes in the fibre will be cumulative, "factor P" will not necessarily accumulate correspondingly in the tissue spaces or to a level adequate to stimulate the nerves themselves. The latent period from occlusion to the appearance of pain in the experiment above cited is a period during which "factor P" is rising in the tissue spaces to a level corresponding to the state of the fibre. Thus our fuller hypothesis takes the form that a product of muscular contraction is directly or indirectly responsible for pain; that, when successive mus-

cular contractions occur in the absence of bloodflow, the state of the muscle alters progressively and that *pari passu* "factor P" accumulates in the tissue spaces; but that when the muscular contraction occurs in the presence of bloodflow, although the same change happens in the muscle fibre, "factor P" cannot rise to the corresponding level in the tissue space. Quick disappearance of the pain of exercise on release of the circulation is to be interpreted as due to the prompt reduction of the level of "factor P" in the tissue spaces, and not to recovery of the muscle mass as a whole. The ordinary failure of pain to appear in muscular exercise with intact circulation may be attributed to adequate interchange between tissue space and vessel in which bloodflow is rapid.

The purpose of hypothesis is to provide an explanation of the facts, to clear our conceptions, and to act as a basis for future observation. The hypothesis as it stands is directly applicable to cases of intermittent claudication and helps us to understand the phenomena these display. Upon its basis simple tests can be devised that are serviceable in ascertaining the degree in which blood supply to the muscles is deficient. Thus the time taken for pain to develop in a limb under standard conditions of work, and its relation to the time taken when the circulation to this limb is artificially and completely arrested, is clearly important. Another important gauge in similar tests is the rate at which pain subsides from the intolerable point on releasing the circulation, for the greater the returning bloodflow, the quicker will normal conditions become reestablished in the tissue spaces.

RESOLUTIONS ON MEDICINAL ALCOHOL

PREAMBLE AND RESOLUTIONS ADOPTED BY THE COUNCIL ON MARCH 25, 1931 AND AMENDMENTS

Introduced at the Stated Meeting of April 2. Adopted at the Stated Meeting of May 7.

WHEREAS, The Congress has undertaken to fix the doses of wine and whiskey and brandy by legislative fiat, thus taking over a function properly belonging to the pharmacologist and physician, and

WHEREAS, The administration of the Volstead Act compels physicians to betray the confidences of their patients by keeping a record of their diseases and ailments for inspection by Federal Prohibition agents, and thus to violate the traditions of the medical profession, medical ethics and the laws of a number of States, and

WHEREAS, The legislature of the State of New York has enacted into law the Hastings Bill freeing the medical profession from the unwarranted usurpations of the Federal Congress over the control of medical practice, and

WHEREAS, Relief from these conditions has been sought in the courts and has been denied by the United States Supreme Court, and

WHEREAS, The Wickersham Commission has unanimously recommended:

1. "Removal of the causes of irritation and resentment on the part of the medical profession by:
    a. Doing away with the statutory fixing of the amount which may be prescribed and the number of prescriptions;
    b. Abolition of the requirement of specifying the ailment for which liquor is prescribed upon a blank to go into the public files;

c. Leaving as much as possible to regulations rather than fixing details by statute."

Now therefore be it

RESOLVED, that The New York Academy of Medicine hereby formally expresses its disapproval of those portions of the Volstead Act which invade the right of the State of New York to regulate the practice of medicine within its own borders, and which deprive the physician of his right to the free exercise of his judgment in the practice of his profession, and be it

RESOLVED, that The New York Academy of Medicine demands of Congress the repeal of said portions of the Volstead Act, and be it

RESOLVED, that The New York Academy of Medicine urge each of its members to demand of his Senators and Congressman the repeal of said portions of the Volstead Act, and be it

RESOLVED, that The New York Academy of Medicine approves of the Hastings Act, and the return of the entire control of medical practice in the State of New York to the authority of the State, and be it further

RESOLVED, that the Secretary of The New York Academy of Medicine be, and hereby is, instructed to transmit a copy of these Resolutions to the Senators from New York and to each Representative in Congress of the State of New York.

RECENT ACCESSIONS TO THE LIBRARY

Aldrich, C. R. The primitive mind and modern civilization.
London, Paul, 1931, 249 p.

Alexander, J. Mastering your own mind.
N. Y., Funk, 1931, 58 p.

Allers, R. The psychology of character.
N. Y., Macmillan, 1931, 383 p.

van Assen, J., jzn. Leerboek der orthopaedie.
Haarlem, Bohn, 1931, 303 p.

Atlas de radiographie osseuse.
Paris, Masson, 1931, v. 2. in 2 pts.

Bainbridge, F. A. The physiology of muscular exercise. 3. ed.
London, Longmans, 1931, 272 p.

Baur, E.; Fischer, E. and Lenz, F. Human heredity.
N. Y., Macmillan, 1931, 734 p.

Bay, E. B. Medical administration of teaching hospitals.
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Becker, R. and Oppenheimer, A. Normale und pathologische Funktionen der Verdauungsorgane im Röntgenbild.
Leipzig, Thieme, 1931, 144 p.

Bernard, L. Les débuts et les arrêts de la tuberculose pulmonaire.
Paris, Masson, 1931, 265 p.

Bernhard, E. A. Philosophische und naturwissenschaftliche Grundlagen der Psychologie.
Berlin, Heymann, 1930, 123 p.

Browne, A. R. I. Medical electricity for students. 3. ed.
London, Milford, [1931], 245 p.

Carter, H. R. Yellow fever, an epidemiological and historical study of its place of origin.
Balt., Williams, 1931, 308 p.

Cawadias, A. P. The modern therapeutics of internal diseases.
London, Baillière, 1931, 147 p.

Clinical (The) interpretation of aids to diagnosis.
London, Lancet, 1930, v. 1.

Cochrane, J. A. Lavoisier.
London, Constable, 1931, 264 p.

Cohn, M. and Barth, W. Lehrbuch der Röntgenstereoskopie.
Leipzig, Thieme, 1931, 323 p.

Cosens, W. B. Your servant the doctor.
London, Bale, 1931, 192 p.

Cummer, C. L. A manual of clinical laboratory methods. 3. ed.
Phil., Lea, 1931, 583 p.

Dawson, B. The history of medicine; a short synopsis.
London, Lewis, 1931, 160 p.

DeLand, F. The story of lip-reading, its genesis and development.
[Wash.], Volta Bureau, 1931, 232 p.

Dental board of the United Kingdom. Four lectures on "The aetiology of irregularity and malocclusion of the teeth," by J. C. Brash.
[London], Dental Bd. of the United Kingdom, [1930?], 274 p.

Deutsch Foundation conference, 1930. The care of the aged. Proceedings.
Chic., Univ. of Chic. Pr., [1931], 144 p.

Dewar, D. Difficulties of the evolution theory.
London, Arnold, 1931, 192 p.

Fighting disease with drugs . . . edited by John C. Krantz, jr.
Balt., Williams, 1931, 230 p.

Fishberg, A. M. Hypertension and nephritis. 2. ed.
Phil., Lea, 1931, 619 p.

Gray, J. A text-book of experimental cytology.
Cambridge [Eng.], Univ. Pr., 1931, 516 p.

Greig, D. M. Clinical observations on the surgical pathology of bone.
Edinburgh, Oliver, [1931], 248 p.

Gros, O. Leitfaden der Physiologie.
Leipzig, Barth, 1931, 160 p.

Handbook (A) of child psychology. Edited by Carl Murchison.
Worcester, Clark Univ. Pr., 1931, 711 p.

Hertzler, A. E. Surgical pathology of the genito-urinary organs.
Phil., Lippincott, [1931], 286 p.

Hollander, B. Brain, mind, and the external signs of intelligence.
London, Allen, [1931], 288 p.

House, A. G. Bacteriological control of milk.
Cambridge [Eng.], National Institute for Research in Dairying, 1931, 59 p.

Jackson, J. H. Selected writings. Vol. 1, On epilepsy and epileptiform convulsions.
London, Hodder, 1931, 500 p.

Jacobson, B. M. Lowered basal metabolism—its causes and clinical significance.
Providence, Snow, 1931, 40 p.

Jaffe, B. Crucibles; the lives and achievements of the great chemists.
London, Jarrolds, 1931, 318 p.

Kahn, E. Psychopathic personalities.
New Haven, Yale Univ. Pr., 1931, 521 p.

Kalk, H. Das Geschwür des Magens und Zwölffingerdarmes und das Geschwür des operierten Magens.
Berlin, Urban, 1931, 214 p.

Kessler, H. H. Accidental injuries; the medico-legal aspects of workmen's compensation and public liability.
Phil., Lea, [1931], 718 p.

Kuntz, A. A text-book of neuro-anatomy.
Phil., Lea, 1931, 359 p.

Lewis, (Sir) T. Clinical electrocardiography. 5. ed.
London, Shaw, 1931, 128 p.

Liotta, M. A. The unborn child.
N. Y., [Hoss], 1931, 44 p.

McDonagh, J. E. R. The nature of disease. Pt. 3, sect. 1.
London, Heinemann, 1931, 391 p.

Macfie, R. C. Science rediscovers God. [2. ed.].
Edinburgh, Clark, [1931], 275 p.

Masters, W. E. The alcohol habit and its treatment.
London, Lewis, 1931, 190 p.

Meredith, W. C. J. Insanity as a criminal defence.
Montreal, Wilson, 1931, 146 p.

Morley, J. Abdominal pain.
Edinburgh, Livingstone, 1931, 191 p.

Nattrass, F. J. The commoner nervous diseases.
London, Milford, 1931, 218 p.

O'Malley, I. B. Florence Nightingale.
London, Butterworth, [1931], 416 p.

Piette, E. C. Textbook of histology for medical and dental students.
Phil., Davis, 1931, 466 p.

Pitt, J. N. U. Curiosities of heredity; "The Hapsburg lip."
London, Bale, 1931, 24 p.

Price, J. P. The young doctor thinks out loud.
N. Y., Appleton, 1931, 186 p.

Recent advances in microscopy; biological applications. Edited by A. Piney.
London, Churchill, 1931, 260 p.

Reik, T. Ritual, psycho-analytic studies.
London, Woolf, 1931, 367 p.

Review (A) of the effects of alcohol on man.
London, Gollancz, 1931, 300 p.

Robertson, J. D. Gastric acidity, an historical and experimental study.
London, Murray, [1931], 76 p.

Royal Anthropological Institute of Great Britain & Ireland. Early man, his origin, development and culture. . . . Lectures.
London, Benn, 1931, 176 p.

Schalek, A. Fundamentals of dermatology. 2. ed.
Phil., Lea, 1931, 247 p.

Siegrist, A. Die skrofulöse Augenentzündung.
Berlin, Urban, 1931, 68 p.

Smith, S. Forensic medicine. 3. ed.
London, Churchill, 1931, 631 p.

Stevens, T. G. Diseases of women. New ed.
London, Univ. of London Pr., 1931, 444 p.

Thiel, R. Männer gegen Tod und Teufel.
Berlin, Neff, 1931, 415 p.

Thomsen, O. Antigens in the light of recent investigations.
Copenhagen, Levin, 1931, 187 p.

Thurstone, L. L. and Jenkins, R. L. Order of birth, parent-age and intelligence.
Chic., Univ. of Chic. Pr., [1931], 135 p.

Traité de la syphilis, publié sous la direction de Ed. Jeanselme.
Paris, Doin, 1931, v. 1-2.

Trattato della tubercolosi, diretto dal L. Devoto.
Milano, Vallardi, 1931, v. 1.

Tuberculosis, its treatment and cure with the help of umckaloabo (Stevens).
London, Fraser, [1931], 153 p.

Turner, (Sir) G. R. Unorthodox reminiscences.
London, Murray, [1931], 343 p.

Warwick, W. T. The rational treatment of varicose veins and varicocele.
London, Faber, 1931, 188 p.

Wolman, A. and Gorman, A. E. The significance of waterborne typhoid fever outbreaks, 1920-1930.
Balt., Williams, 1931, 82 p.

PROCEEDINGS OF ACADEMY MEETINGS

OCTOBER

There was no Stated Meeting of the Academy on October 1.

THE HARVEY SOCIETY
In affiliation with
THE NEW YORK ACADEMY OF MEDICINE
Thursday Evening, October 15, at 8:30 o'clock

THE FIRST HARVEY LECTURE

"THE HORMONE OF THE SUPRARENAL CORTEX"
W. W. SWINGLE, Princeton University
(This lecture takes the place of the Stated Meeting of the Academy.)
JAMES W. JOBLING, President Harvey Society
DAYTON J. EDWARDS, Secretary Harvey Society

SECTION MEETINGS

SECTION OF SURGERY
Friday Evening, October 2, at 8:30 o'clock

ORDER

I. READING OF THE MINUTES
II. PRESENTATION OF CASES
  a. 1. Gangrenous intussusception. Resection
    2. Elephantiasis of left upper extremity. Kondolean operation, R. Franklin Carter
  b. A case of ruptured gastric ulcer complicated by embolic abscesses to the lung and liver. Operation for liver abscess, Ben-Henry Rose
  c. 1. Non-union in fracture of the tibia—open operation. End result (two cases)
    2. Fracture of os calcis, bilateral. End result
    3. Open reduction for ununited compound fracture, second metacarpal. Intermediate result
    4. Open reduction for mal-union fracture shaft of femur. End result, Herbert Bergamini
III. PAPER OF THE EVENING
  A Bacteriological study of chronic ulceration in relation to carcinoma, Edward W. Saunders
IV. DISCUSSION OPENED BY Joshua E. Sweet
V. EXECUTIVE SESSION
  Report of the committee on qualifications for Fellow in Surgery. This report has been mailed to each member of the Section for his consideration. Action will be taken at this meeting.

Section of Dermatology and Syphilology
Tuesday Evening, October 6, at 8:30 o'clock

ORDER

I. Reading of the Minutes
II. Presentation of Cases
  a. Cases from the Vanderbilt Clinic
  b. Miscellaneous cases
III. General Discussion
IV. Executive Session

Section of Pediatrics
Thursday Evening, October 8, at 8:30 o'clock

Instead of the regular October meeting of the Section, a combined meeting was held in Philadelphia of the Section with the Philadelphia Pediatric Society and the New England Pediatric Society, on this date.

Section of Neurology and Psychiatry
Tuesday Evening, October 13, at 8:30 o'clock

ORDER

I. Reading of the Minutes
II. Presentation of Cases
  a. Brain tumor simulating epidemic encephalitis, Rubin A. Gerber
  b. Charcot-Marie-Tooth type of neuritic atrophy in a family group, George A. Blakeslee (by invitation)
  Discussion, B. Sachs
III. Paper of the Evening
  The problem of cerebral dominance in the acquisition of language function, Samuel T. Orton (by invitation)
IV. Discussion, Michael Osnato, B. Sachs, Foster Kennedy
V. Executive Session
  Discussion of qualifications for Fellow in Neurology and Psychiatry, based on report of the Advisory Committee.
  Members were requested to present their views and enter into this discussion.

Joint Meeting
of the
Section of Oto-Laryngology
and the
American College of Surgeons
Tuesday Evening, October 13, at 8:30 o'clock

ORDER

I. Reading of the Minutes
II. Presentation of Cases
III. Papers of the Evening
  a. An outline of the activities of the Otological Research Laboratory of the Johns Hopkins University during the past five years, Samuel J. Crowe, Baltimore (by invitation)
  Discussion, Edmund P. Fowler (by invitation)

b. Some intimate studies of nasal function; their bearing upon diagnosis and treatment, Arthur W. Proetz, St. Louis (by invitation) Discussion, S. H. Pike, Ph.D., Columbia University (by invitation)

IV. General Discussion

V. Executive Session

Appointment of Nominating Committee

Joint Meeting

of the

Section of Ophthalmology

and the

American College of Surgeons

Wednesday Evening, October 14, at 8:30 o'clock

(*Please Note Change in Date*)

ORDER

I. Reading of the Minutes

II. A Symposium on Industrial Injuries of the Eye and Orbit

a. The clinical phase, Edward B. Heckel, Pittsburgh (by invitation), George H. Cross, Chester, Pa. (by invitation), E. S. Sherman, Newark, Henry S. Miles, Bridgeport

b. Pathological specimens, Bernard Samuels

c. On workmen's compensation problems of interest to ophthalmologists, Mr. V. A. Zimmer, Director, Division of Workmen's Compensation, Department of Labor, N. Y. State (by invitation)

d. On the subject of prevention of industrial accidents to the eyes and orbits, Mr. Louis H. Carris, Director of the Society for the Prevention of Blindness (by invitation)

III. Executive Session

Section of Orthopedic Surgery

Friday Evening, October 16, at 8:30 o'clock

ORDER

I. Reading of the Minutes

II. Papers of the Evening

a. Open reduction in congenital dislocation of the hip. Report of 72 cases with case presentations, M. B. Howorth (by invitation)

b. Open operations for congenital dislocation of the hip with case presentation, Paul C. Colonna

c. Closed reduction of congenital dislocation of the hip. Report of 25 cases with case presentations, Francis Joseph Carr (by invitation)

III. Discussion

Opened by H. P. H. Galloway, Winnipeg (by invitation)

IV. Executive Session

SECTION OF MEDICINE

Tuesday Evening, October 20, at 8:30 o'clock

ORDER

Program arranged in conjunction with the

FOURTH ANNUAL GRADUATE FORTNIGHT

1. Relation of heart disease to operations, Alfred Stengel, Professor of Medicine, University of Pennsylvania
2. THE WESLEY M. CARPENTER LECTURE:
   Intermittent claudication, Sir Thomas Lewis, London

SECTION OF GENITO-URINARY SURGERY

Wednesday Evening, October 21, at 8:30 o'clock

A program was arranged on this evening for the Graduate Fortnight by courtesy of the Section of Obstetrics and Gynecology. No meeting of the Section, therefore, was held in October. (See Graduate Fortnight program)

SECTION OF OBSTETRICS AND GYNECOLOGY

Tuesday Evening, October 27, at 8:30 o'clock

A program was arranged on this evening for the Graduate Fortnight by courtesy of the Section of Obstetrics and Gynecology. No meeting of the Section, therefore, was held in October. (See Graduate Fortnight program)

NEW YORK MEETING

of the

SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE

Under the auspices of

THE NEW YORK ACADEMY OF MEDICINE

Wednesday Evening, October 21, at 8:15 o'clock

1. Abortive Poliomyelitis, S. D. Kramer and W. L. Aycock (introduced by Benjamin Kramer)
2. Purification of Poliomyelitis Virus by Absorption and Elution, A. B. Sabin (introduced by W. H. Park)
3. A Recently Described Virus Disease of Parrots and Parrakeets Differing from Psittacosis, T. M. Rivers
4. Vaccination of Humans Against Yellow Fever with Immune Serum and Virus Fixed for Mice, W. A. Sawyer, S. F. Kitchen and W. Lloyd (introduced by T. P. Hughes)
5. Cultivation of the Virus of the Common Cold in Tissue Medium, A. R. Dochez, K. C. Mills, and Y. Kneeland, Jr.
6. Depression of the Vomiting Mechanism by Digitalis, H. Gold, N. Kwit, and J. Travell
7. Liver Changes after Deprivation of External Pancreatic Secretion, B. N. Berg and T. F. Zucker
8. Local Cerebral Anaphylaxis in the Dog, L. M. Davidoff and N. Kopeloff

DAYTON EDWARDS, President A. J. GOLDFORB, Secretary

FELLOWS ELECTED NOVEMBER 5, 1931

Dorothy H. Anderson.....187 Pinehurst Avenue
George Anopol.....30 East 40 Street
Leo M. Davidoff .....6 East 85 Street
E. Percy Eglee .....105 East 53 Street
Elmer S. Gais .....151 East 83 Street
Charles A. Greenhouse.....1401 Grand Concourse
Bart Mulford James.....Bernardsville, New Jersey
Claus W. Jungeblut.....6 Windsor Rd., Hastings, N. Y.
Joseph Levine.....113 East 61 Street
Leon S. Loizeaux.....4 East 88 Street
Evan W. McLave.....30-44 37 Street, L. I. City
John A. P. Millet.....770 Park Avenue
C. J. F. Parsons.....Dobbs Ferry, New York
Robert E. Pound.....118 Ritchie Drive, Yonkers, N. Y.
Elaine P. Ralli.....75 East 55 Street
Thomas M. Rivers.....Rockefeller Institute
Paul F. Schilder.....52 North Gramercy Park
Anthony Wollner.....1015 Lexington Avenue

ASSOCIATE FELLOWS ELECTED NOV. 5, 1931

Ross A. McFarland, Ph.D.....88 Morningside Drive
Richard H. Paynter, Ph.D.....395 Grand Avenue, Brooklyn

DEATHS OF FELLOWS OF THE ACADEMY

EMIL MAYER, M.D., 320 West 89 Street, New York City; graduated in medicine from New York University, in 1877; elected a Fellow of the Academy April 7, 1892; died, October 20, 1931. Dr. Mayer was a Fellow of the American Medical Association, a member of the County and State Medical Societies, a member of the American Laryngological, Rhinological and Otological Societies, a member of the American Academy of Ophthalmology and Oto-Laryngology, a member of the American Bronchoscopy Society, and Consulting Laryngologist to Mt. Sinai Hospital, also Chief of the clinic of the Nose and Throat Department of that Dispensary. He was at various times adjunct Professor to the Polyclinic Hospital, Surgeon and Chief of the Throat clinic to the New York Eye and Ear Infirmary and during the World War Dr. Mayer was Chief of the Medical Intelligence Bureau of the American Red Cross. He was also editor of the "Centralblatt fuer Laryngologie" and contributed many articles to the literature of his specialty.

GEORGE WATSON ROBERTS, M.D., 26 West 54 Street, New York City; graduated in medicine from the New York Homeopathic Medical College, in 1889; elected a Fellow of the Academy November 1, 1923; died, October 14, 1931. Dr. Roberts was a Fellow of the American Medical Association, a Fellow of the American College of Surgeons and a member of the County and State Medical Societies. He was Consulting Surgeon to Fifth Avenue Hospital, New York, also St. Mary's Hospital in Passaic and Ann May Memorial in Spring Lake, New Jersey.